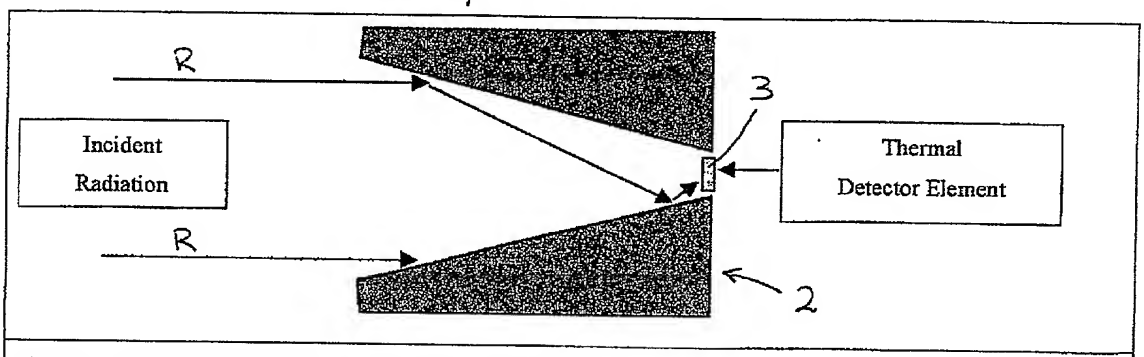

Figure 1: Illustrating the principle of the radiation collector

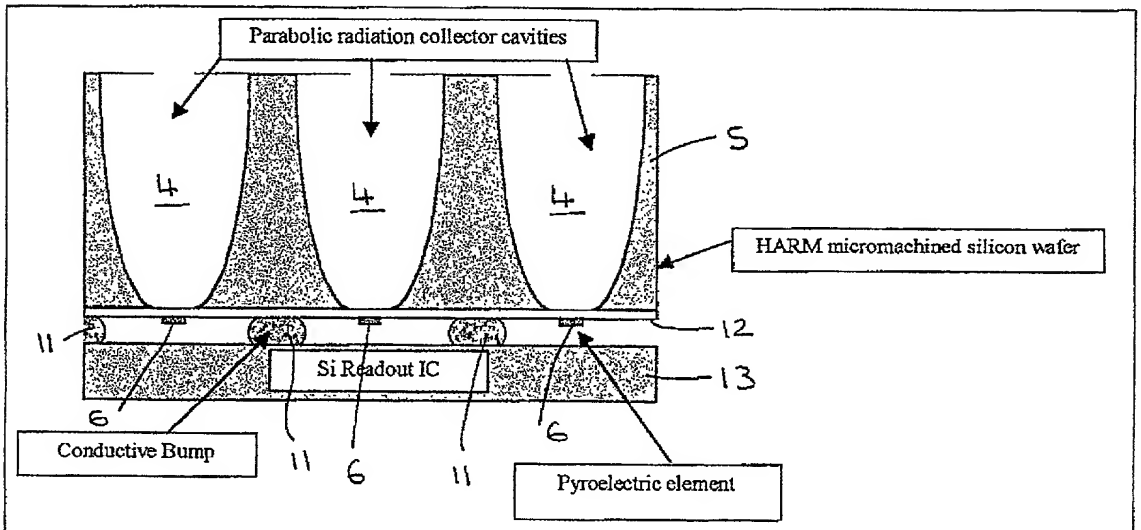

Figure 2a: Schematic diagram of the radiation collector structure envisaged.

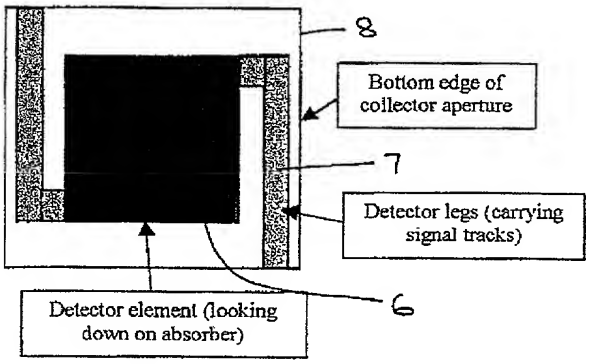

Figure 2b: Schematic diagram of detector element with leg isolation

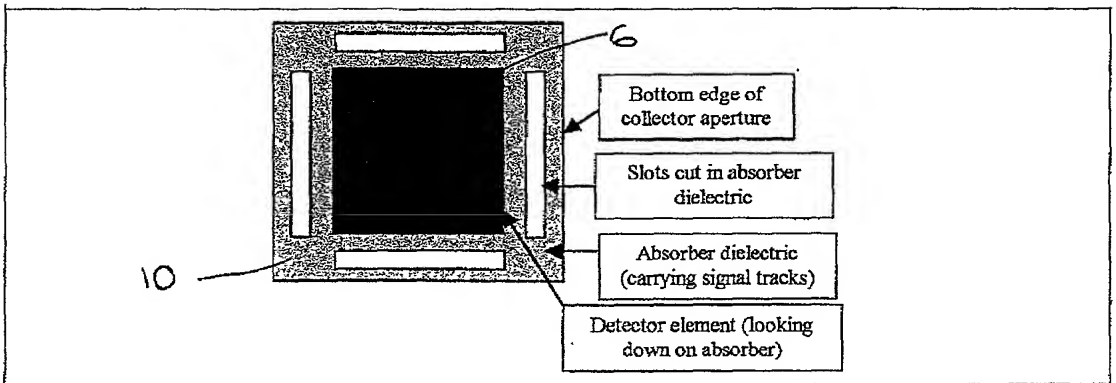

Figure 2c: Schematic diagram of detector element with slot isolation

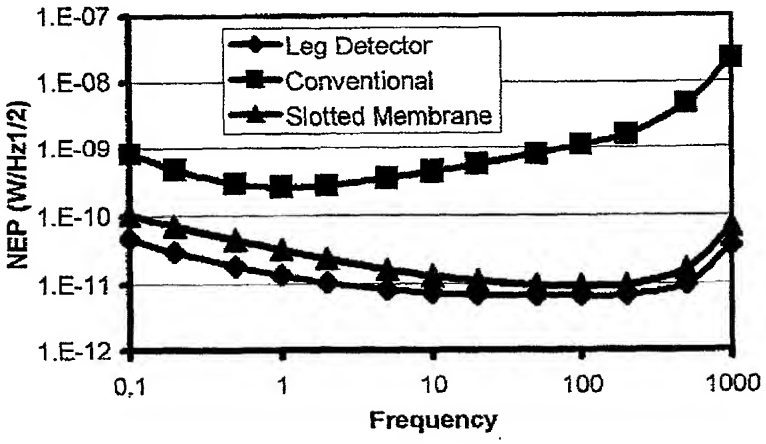

Figure 3: Results of calculations of modelled NEP for standard detector and a detector structures incorporating radiation collectors.

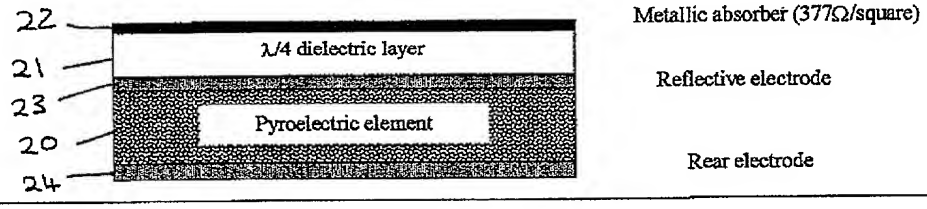

Figure 4a: Dielectric absorber layer (1.7μm SiO_2)

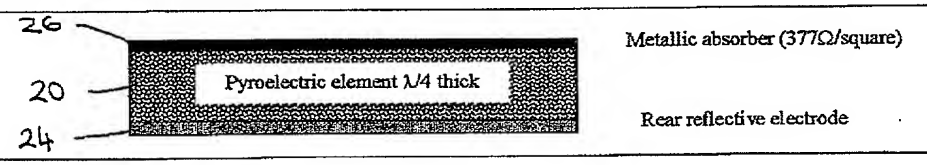

Figure 4b: Pyroelectric thin film as the absorber layer.

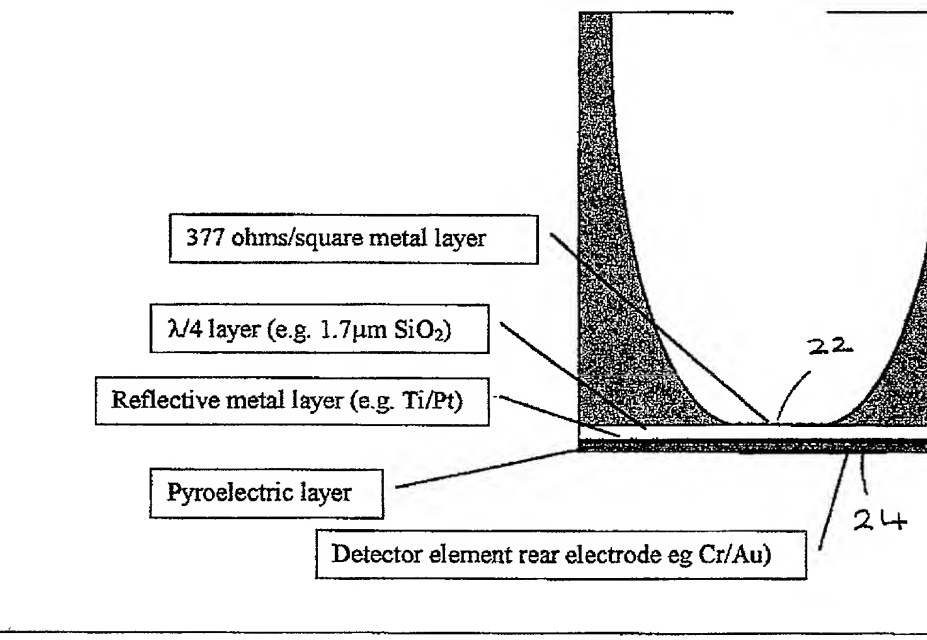

Figure 5: Collector structure showing the incorporation of a detector element with an interference absorber at the base.

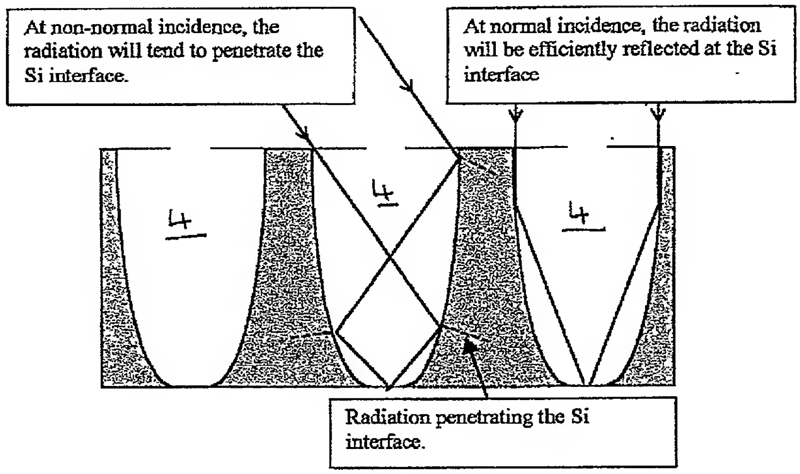

Figure 6a: Illustrating the effects of signal loss for non-normal incidence radiation.

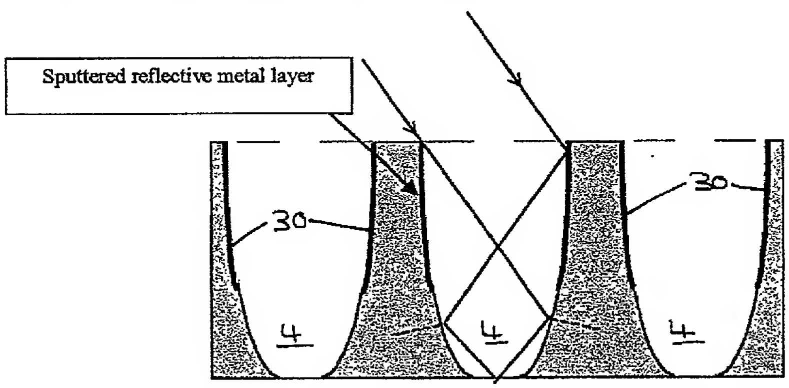

Figure 6b: Coating the upper regions of the reflector array will tend to allow the radiation to be reflected deeper into the collector cavity.

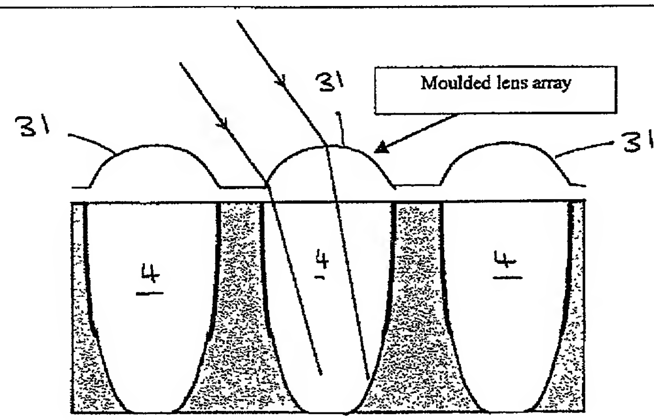

Figure 6c: Placing a moulded lens array in front of the cavities will tend to pull high incidence angle radiation into a more-glancing angle of incidence onto the silicon surface, improving overall collector efficiency.

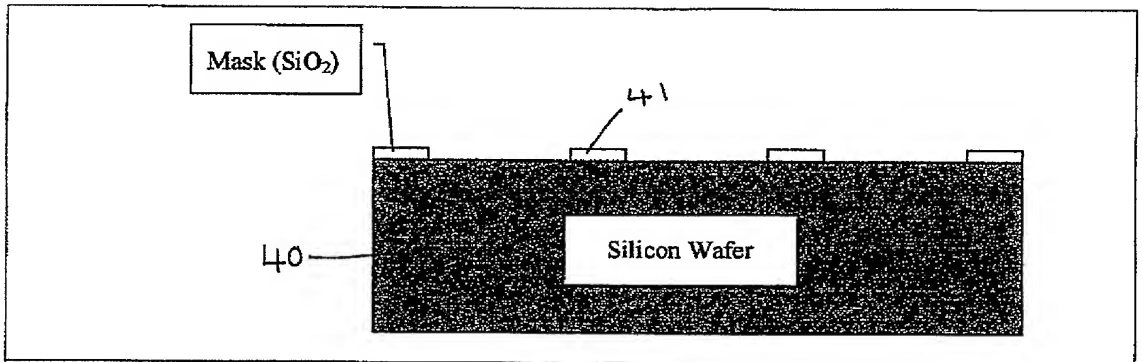

Figure 7a: Silicon wafer with "hard" mask defined

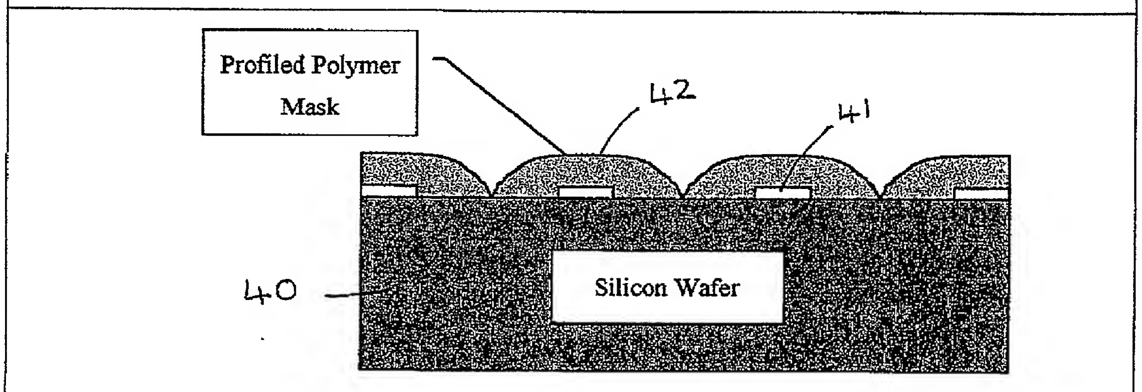

Figure 7b: Silicon wafer with profiled polymer mask defined

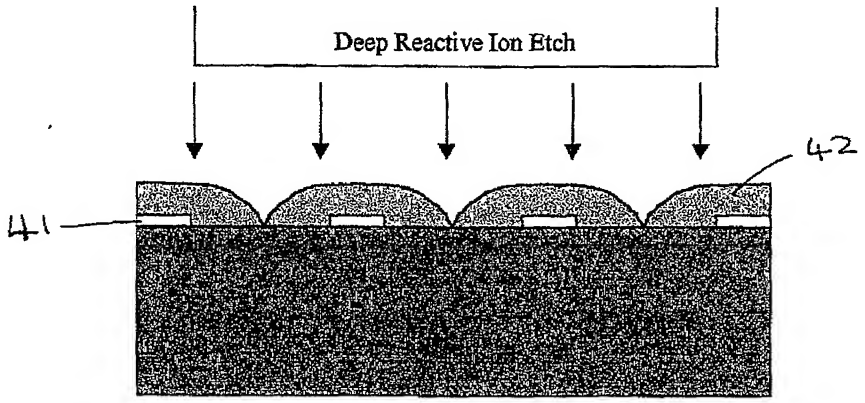

Figure 7c: Silicon wafer with masks exposed to DRIE

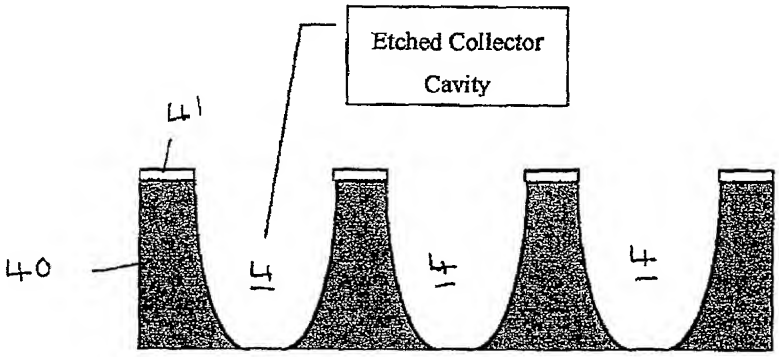

Figure 7d: Silicon wafer with cavities etched by DRIE